

ABSTRACT OF THE DISCLOSURE

The present invention is to provide the design method of a Fermi-antenna with corrugation that has a broadband and circular directivity which are necessary for the reception imaging of millimeter-wave, and it includes the steps of: an H-plane beam width is set to a beam width having a directivity of target by changing a point of infection of a Fermi-Dirac function that is a taper function of the Fermi-antenna; and an E-plane beam width is set to the beam width having the directivity of target by changing an aperture width of the Fermi-antenna. By adjusting the beam widths of H-plane and E-plane independently like this and by fitting those with the target value, the Fermi-antenna that has the wideband and circular directivity can be designed in the short time.